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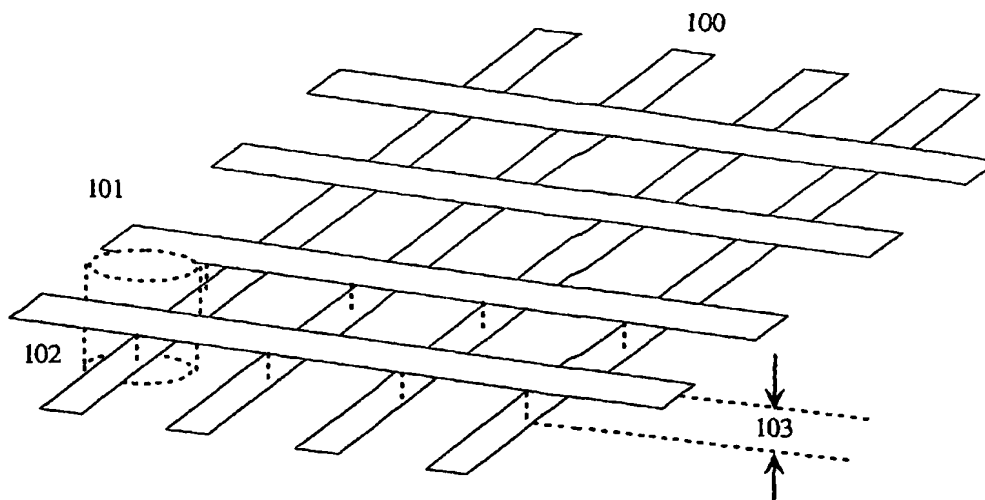
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[Continued on next page]

(54) Title: SIMPLE MATRIX ADDRESSING IN A DISPLAY



(57) Abstract: An addressing mechanism for charging and discharging quasi-capacitive elements in an X-Y matrix. The addressing mechanism may be configured to toggle a resistor-capacitive time constant between large and small values such as by opening or closing a circuit path to a low impedance resistor (logic bits 0) disposed in parallel with a higher impedance in-line resistor (logic bits 1). When this occurs, elements in the X-Y matrix (102) can be addressed and controlled. The X-Y matrix may be comprised of multiple "rows" and "columns" of conductors where crosstalk may occur along the columns and rows (100 and 101). Crosstalk may be curtailed by using either hysteresis management or global control of the row's impedance along its entire length. The resulting control obviates the need for active devices at each matrix element to perform the switching functions.

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Declaration under Rule 4.17:

— *of inventorship (Rule 4.17(iv)) for US only*

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 02 SEP 2005

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:
KELLY K. KORDZIK
WINSTEAD SECHREST & MINICK P.C.
P.O. BOX 50784
DALLAS, TX 75201

Date of mailing
(day/month/year) **31 AUG 2004**

Applicant's or agent's file reference 25438-P014WO		FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/US04/37446	International filing date (day/month/year) 09 November 2004 (09.11.2004)	Priority date (day/month/year) 14 November 2003 (14.11.2003)	
International Patent Classification (IPC) or both national classification and IPC IPC(7): G09G 3/10, 5/00; G01N 33/53; C12M 1/34; G01F 1/64 and US Cl.: 205/777.5; 435/7.1, 287.2; 315/169.3; 345/55,60,61,62,74.1,87,95,98,100,173,204,208			
Applicant UNI-PIXEL DISPLAYS, INC.			

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer Bipin H Shalwala Telephone No. 703-305-9618
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Form PCT/ISA/237 (cover sheet) (January 2004)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US04/37446

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US04/37446

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>NONE</u>	YES
	Claims <u>1-39</u>	NO
Inventive step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-39</u>	NO
Industrial applicability (IA)	Claims <u>NONE</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Claims 1-39 novelty under PCT Article 33(2) as being anticipated by Rindal et al., (U.S. patent No. 6,628,273).

Rindal discloses a first set of parallel, co-planar conductive control lines; a second set of parallel, co-planar conductive control lines the second set of conductive control lines are spaced apart in relation to the first set of conductive control lines, a plane of the second set of conductive control lines is parallel to a plane of the first set of conductive control lines, control lines of the second set of conductive control lines are perpendicular to control lines of the first set of conductive control line (In fig.2 and In col.4 lines 47-67); a first select mechanism configured to selectively apply an in line impedance to a control line of the first set of conductive control lines and a second select mechanism configured to selectively apply a drive voltage to each conductive line of the second set of conductive lines (In col.5 lines 1-20) and further having a toggle control lines of the first set of conductive control line between a low and high impedance (In col.5 lines 55-67) and a row select sequencer configured to sequentially activate subsequent control lines in the first set of conductive control lines, a selected control line in the first set of conductive control lines is placed in a low impedance state while non selected control lines in the first set of conductive control lines are placed in a high impedance state; a clock mechanism configured to determined a duration of time selected control line is in the low impedance and a synchronizing mechanism configured to synchronize loading and encoding of data to clocking mechanism and the selected control line such that the data is loaded and processed during the duration of time the selected control line is in low impedance state (In col.6 lines 1-67).

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/37446

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : GO9G 3/10, 5/00; G01N 33/53; C12M 1/34; G01F 1/64

US CL : 205/777.5; 435/7.1, 287.2; 315/169.3; 345/55,60,61,62,74.1,87,95,98,100,173,204,208

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 205/777.5; 435/7.1, 287.2; 315/169.3; 345/55,60,61,62,74.1,87,95,98,100,173,204,208

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
IEEEElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST, WEST, JPO, DERWANT

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
x	US 6,628,273 B1 (RINDAL et al) 30 September 2003, column 4, lines 47-67, column 5, lines 20-57, column 6, lines 35-67, column 7, lines 27-55, column 8 lines 40-67	1-39



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

31 July 2005 (31.07.2005)

Date of mailing of the international search report

31 AUG 2005

Name and mailing address of the ISA/US

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Commissioner for Patents

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